CLAIMS

We Claim:

1. A process for producing homoharringtonine, comprising:

a) contacting a *Cephalotaxus* plant with citric acid to obtain an extraction mixture;

b) adjusting the pH of the extraction mixture of a) to between about 8 and 9 with ammonia;

c) extracting said extraction mixture of b) with chloroform;

d) applying reduced pressure to the extraction mixture of c) to remove said chloroform;

e) contacting the extraction mixture of d) with a silica gel column and eluting a purified extraction product;

f) concentrating the purified extraction product of e);

g) drying the concentrated purified extraction product of f);

h) contacting the dried extraction product of g) with methanol to obtain a precipitate; and

i) collecting said precipitate, wherein said precipitate comprises homoharringtonine.

2. The process of claim 1 wherein said contacting of a) is for at least 48 hours.

3. The process of claim 1 wherein said adjusting of b) is to pH 8.5.

4. The process of claim 1 further comprising concentrating the extraction mixture of b) under reduced pressure, contacting the concentrated extraction mixture with citric acid, extracting the concentrated extraction mixture with chloroform, and adjusting the pH of the concentrated extraction mixture to between about 5 and 8.

5. The process of claim 1 wherein said contacting of h) is at a temperature between 4°C and 10°C.

6. The process of claim 1 wherein said contacting of h) is for at least 16 hours.

7. The process of claim 1 further comprising filtering and rinsing said precipitate of h) with a mixture of methanol and water.

8. The process of claim 7 further comprising contacting said filtered and rinsed precipitate with methanol and re-drying.

9. The process of claim 1, wherein said homoharringtonine is at least 98% pure.

10. The process of claim 9, further comprising dissolving said homoharringtonine in buffered water or saline.

11. The process of claim 10, wherein said dissolving is without pharmaceutical excipients.

12. A composition obtained by the process of claim 1.

13. A composition according to claim 13 that does not include mannitol.

14. A composition according to claim 13 that does not require lyophilization to create a pharmaceutically acceptable dosage form.

15. A method of treatment comprising administering the composition of claim 12, wherein said composition is administered by intravenous administration for 5 to 25 days per month.

16. A method of treatment comprising administering the composition of claim 12, wherein said composition is administered by a non-intravenous route.

17. The method of treatment of claim 16 wherein said non-intravenous route is intramuscular, subcutaneous, oral or intraocular administration.

18. The composition according to claim 12 wherein said composition can be administered as a depot.

19. An aqueous solution of HHT, wherein said solution is stable, wherein said solution is in a unit dosage form, wherein said solution is suitable for administration by injection.

20. The aqueous solution of claim 19, wherein said solution has a concentration between 0.1 and 50 mg/mL HHT.

21. The aqueous solution of claim 19, wherein said solution has a concentration between about 1 and 5 mg/mL.

22. The aqueous solution of claim 19, wherein said solution has a pH between about 3.0 and 5.0.

23. The aqueous solution of claim 19, wherein said solution has a pH of about 4.0.

24. The aqueous solution of claim 19, wherein said solution is provided in a sealed container.

25. A method of treatment of a host with an aberrant cellular condition, comprising contacting said host with a cephalotaxine in an amount sufficient to modulate the aberrant cellular condition, wherein said contacting is for at least 5 consecutive days.

26. The method of claim 25, wherein said cephalotaxine is homoharringtonine.

27. The method of claim 25, wherein said aberrant cellular condition is cancer, leukemia, a preleukimic condition, or myelodysplastic syndrome.

28. The method of claim 25, wherein said homoharringtonine is administered by infusion in a dose between 1 and 5 mg/m^2.